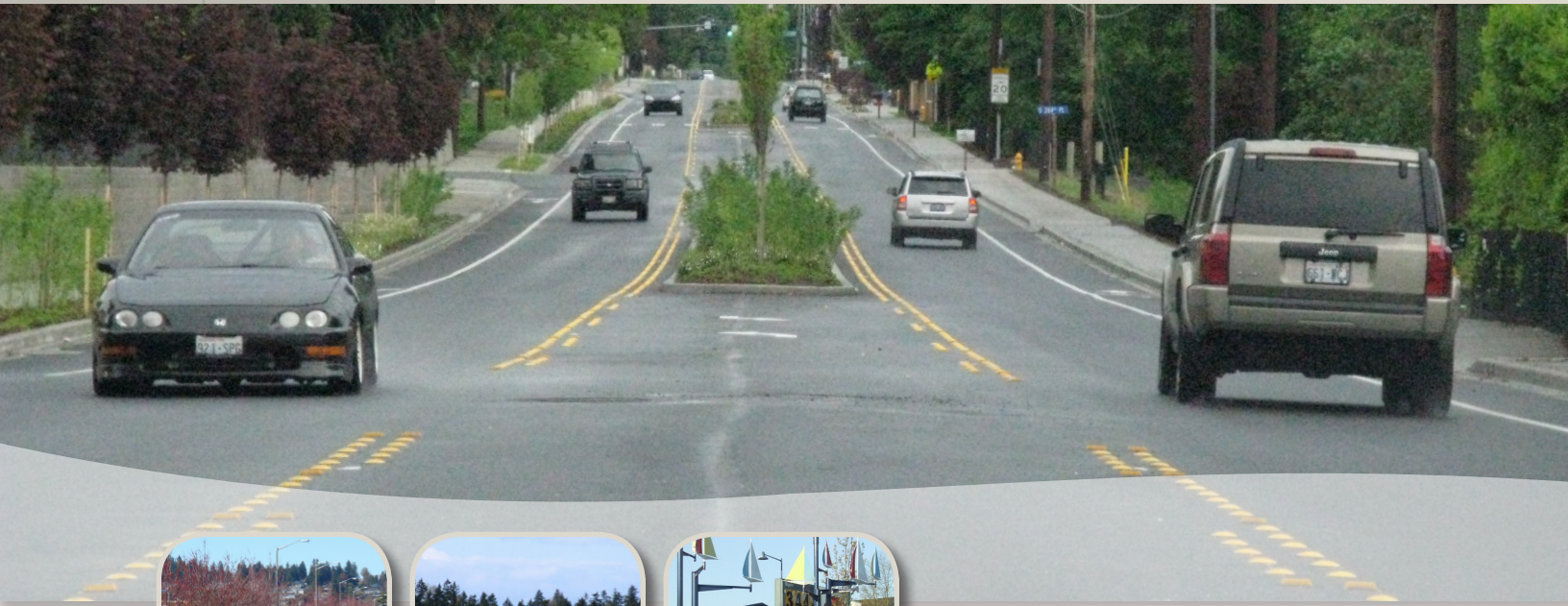




City of Des Moines

RATE STUDY FOR TRANSPORTATION IMPACT FEES 2009 UPDATE



August 2009

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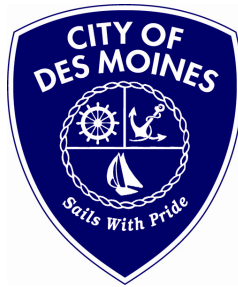
Rate Study for Transportation Impact Fees

2009 Update

Des Moines, Washington

Prepared for:

City of Des Moines



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CHAPTER 1. INTRODUCTION

This report provides an update to the Transportation Impact Fee Program for the City of Des Moines. The update was prepared for the following reasons:

- The Growth Management Act requires regular updates to impact fee programs. The original program was adopted in 2003.
- New projects have been added to the City's Transportation Impact Fee Program and other projects on the previous Transportation Impact Fee Program have been completed.
- The construction costs for projects on the impact fee project list have increased due to inflation and project scope changes over the past 6 years.
- The patterns of traffic growth, land use, and redevelopment have changed.
- The methodology of how impact fees are calculated has changed.

This impact fee rate study will be adopted by reference in the Des Moines municipal code. The following sections describe the impact fee program methodology and the analyses performed.

DEFINITION OF IMPACT FEES

Impact fees are a broad category of charges on new development assessed to pay for capital improvements (e.g., parks, schools, roads, etc.) necessitated by new development. Cities collect transportation impact fees to fund improvements that add capacity to the transportation system accommodating the travel demand added by new development.

The City developed the program based on the following findings:

- Development activity in the City, including residential, commercial, retail, office, and industrial development, will create additional demand and need for public road facilities.
- Des Moines is authorized under the state's Growth Management Act (Chapter 82.02.050 RCW) to require new growth and development within the City to pay a proportionate share of the cost of new road facilities serving that new growth and development through the imposition of impact fees.
- Impact fees may be collected and spent for public road facilities needed for system improvements that are included within the capital facilities element of the City's comprehensive plan.

LEGAL BASIS

The enabling mechanism for imposing impact fees in Washington State is the Growth Management Act (GMA). Prior to the passage of the GMA, local agencies primarily relied

on the State Environmental Policy Act (SEPA) process to require developers to fund mitigation projects necessitated by new development.

The GMA, passed in 1990, modified the portion of RCW 82.05.050 regarding impact fees and specifically authorized the use of impact fees for jurisdictions planning under the Growth Management Act. The GMA allows impact fees for system improvements that reasonably relate to the impacts of new development, and specifies that fees are not to exceed a proportionate share of the costs of improvements.

For a city to impose GMA impact fees, the following specific provisions are required:

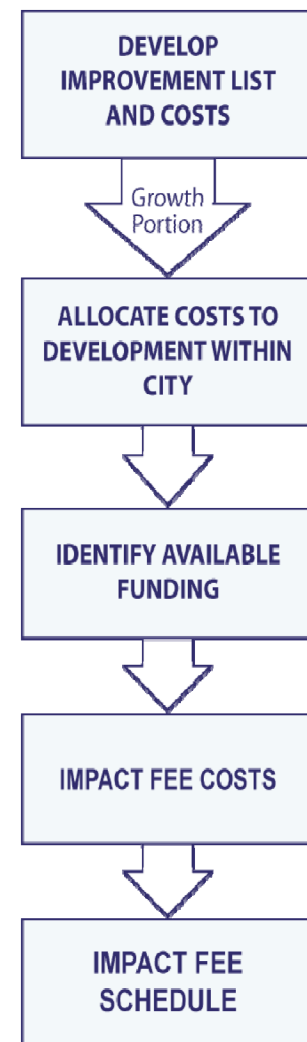
- The city must have an ordinance authorizing impact fees;
- Fees may apply only to improvements identified in a Capital Facilities Plan;
- The agency must establish one or more service areas for fees;
- A formula or other method for calculating impact fees must be established;
- The fees cannot be used to finance the portion of improvements needed to pay for existing capacity deficiencies. (Note: the fees can be used to recoup the cost of improvements already made to address the needs of future development);
- The fees may not be arbitrary or duplicative;
- The fees must be earmarked specifically and be retained in special interest-bearing accounts;
- Fees may be paid under protest; and,
- Fees not expended within six years must be refunded with interest.

An accounting system is important to ensure that the impact fees collected are assigned to the appropriate improvement projects and the developer is not charged twice for the same improvement.

IMPACT FEE STRUCTURE

The key steps involved in the impact fee process are shown in **Figure 1**. Steps include developing a list of road improvements and costs, allocating growth-related costs within the City, and identifying available funding. The remaining costs can be charged as impact fees, which are displayed in the form of a fee schedule. Each step is described in more detail in subsequent sections of this report.

Figure 1. Transportation Impact Fee Program Development Steps



ORGANIZATION OF REPORT

This report includes the following sections:

- Introduction
- Impact Fee Project List
- Cost Allocation
- Impact Fee Schedule

DATA ROUNDING

The data in this study were prepared using computer spreadsheet software. In some tables in this study, there will be very small variations from the results that would be obtained using a calculator to compute the same data. The reason for these insignificant differences is that the spreadsheet software calculated the results to more places after the decimal than is reported in the tables in the report.

CHAPTER 2. IMPACT FEE PROJECT LIST

Washington State law RCW 82.02.050 specifies that Transportation Impact Fees are to be spent on 'system improvements.' System improvements can include physical or operational changes to existing roadways, as well as new roadway connections that are built in one location to benefit projected needs at another location. Generally these projects add capacity (new streets, additional lanes, widening, signalization, et al).

The impact fee structure for the City of Des Moines was designed to determine the fair share of road improvement costs that may be charged to new developments. During the City's transportation planning process, the City identified projects needed by 2030 to meet the transportation needs of the adopted land use in the Comprehensive Plan. The task was accomplished by examining existing roadway deficiencies and forecasting future needs. These capital projects form the basis for the impact fees project list, which includes public and private sources.

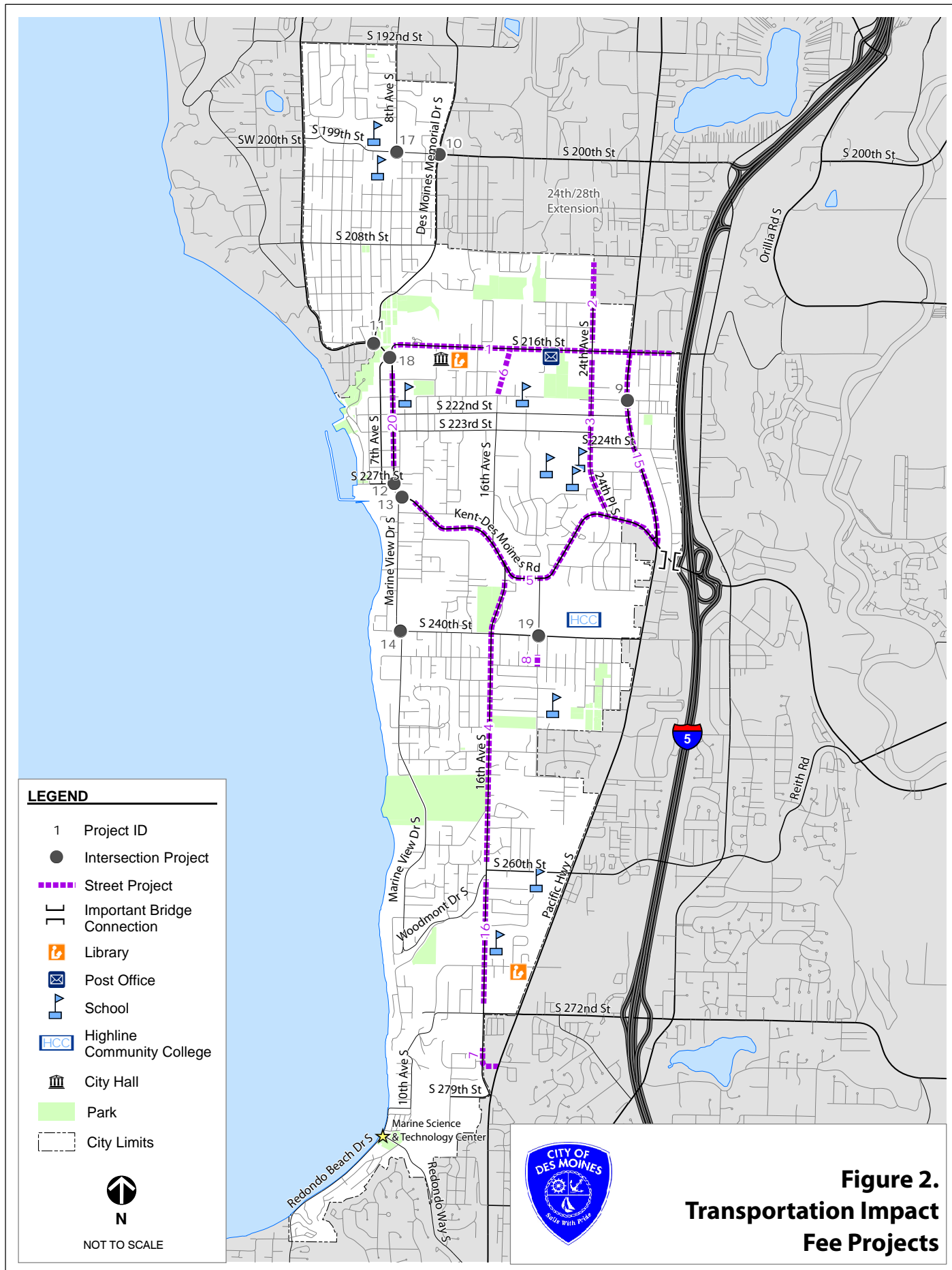
The impact fee project list was composed of selected capacity projects from the City's 2009-Comprehensive Transportation Plan (CTP) which is designed to meet the transportation demand associated with the planned and expected population and jobs through the year 2030. The project list, shown in **Table 1** and illustrated in **Figure 2** includes 20 projects totaling \$105.0 million. Each of the improvement projects are placed into a project group (column two in Table 1) based on geographic proximity and similar travel patterns. The project groups are used in the cost allocation process to determine the percentage of growth occurring within the City and outside the City limits.

Transportation Impact Fee Update 2009

Table 1. Transportation Impact Fee Projects

#	Project Group*	Project Location	Project Description	Total Cost
1	C	South 216th Street, Marine View Drive to I-5	Widen to three lanes west of 19th Avenue South, to five lanes east of 19th Avenue South. Includes bicycle lane, sidewalks and intersection improvements.	\$24,200,000
2	C	24th Avenue South, South 208th Street to South 216th Street	Widen to five lanes with bicycle lane and sidewalks.	8,900,000
3	C	24th Avenue South, South 216th Street to Kent-Des Moines Road	Widen to three lanes with bicycle lanes and sidewalks.	5,800,000
4	A	16th Avenue South, Kent-Des Moines Road to South 260th Street	Widen to three lanes with bicycle lanes and sidewalks.	16,300,000
5	B	Kent-Des Moines Road, Marine View Drive to Pacific Highway South (SR 99)	Widen to three lanes west of 16th Avenue South and to five lanes east to Pacific Highway South with bicycle lanes and sidewalks.	25,100,000
6	A	16th Avenue South, South 216th Street to South 220th Street	Construct two-lane roadway connection.	3,300,000
7	A	16th Avenue South, South 276th Street to Pacific Highway South (SR 99)	Construct two-lane roadway connection.	6,100,000
8	A	20th Avenue South, South 242nd Street to South 244th Street	Construct two-lane roadway connection.	1,500,000
9	C	South 220th Street and Pacific Highway South (SR 99)	Widen for left turn pockets, adjust roadway profile and approach grades, and revise signal phasing to remove split phases.	700,000
10	D	Des Moines Memorial Drive and South 200th Street	Add left turn pockets for north and south approaches and modify signal.	800,000
11	D	Des Moines Memorial Drive and Marine View Drive	Lengthen approach lanes, coordinate signal with Marine View Drive and 7th Avenue South. Also consider roundabout option.	2,500,000
12	B	Marine View Drive and South 227th Street	Revise lane configuration to single eastbound right with overlap phase. Add second southbound through lane.	700,000
13	B	Marine View Drive and Kent Des Moines Road	Add second eastbound through lane through intersection.	3,000,000
14	A	Marine View Drive and South 240th Street	Revise lane configuration, add westbound right turn pocket. Add signal or roundabout if warranted.	400,000
15	C	Pacific Highway South (SR 99)	Widen to add HOV lanes, intersection improvements and install signals.	1,074,702
16	C	16th Avenue South, South 260th Street to South 272nd Street	Widen to three lanes.	2,006,990
17	D	8th Avenue South and South 200th Street	Monitor operation for possible future signal or other treatment.	300,000
18	D	Marine View Drive/ 7th Avenue South and South 216th Street	Optimize signal timing and coordinate with Des Moines Memorial Drive/Marine View Drive Intersection.	300,000
19	A	South 240th Street and 20th Avenue South	Widen to provide two-way left-turn lane/refuge pocket along segment. Widen to provide left turn lane at intersection. Install traffic signal if warranted.	1,700,000
20	C	Marine View Drive, Des Moines Memorial Drive to Kent Des Moines Road	Fiber optic signal interconnect.	300,000
Total Project Costs				\$104,981,692

*Project Group: Refer to Appendix A for a listing of the groups.

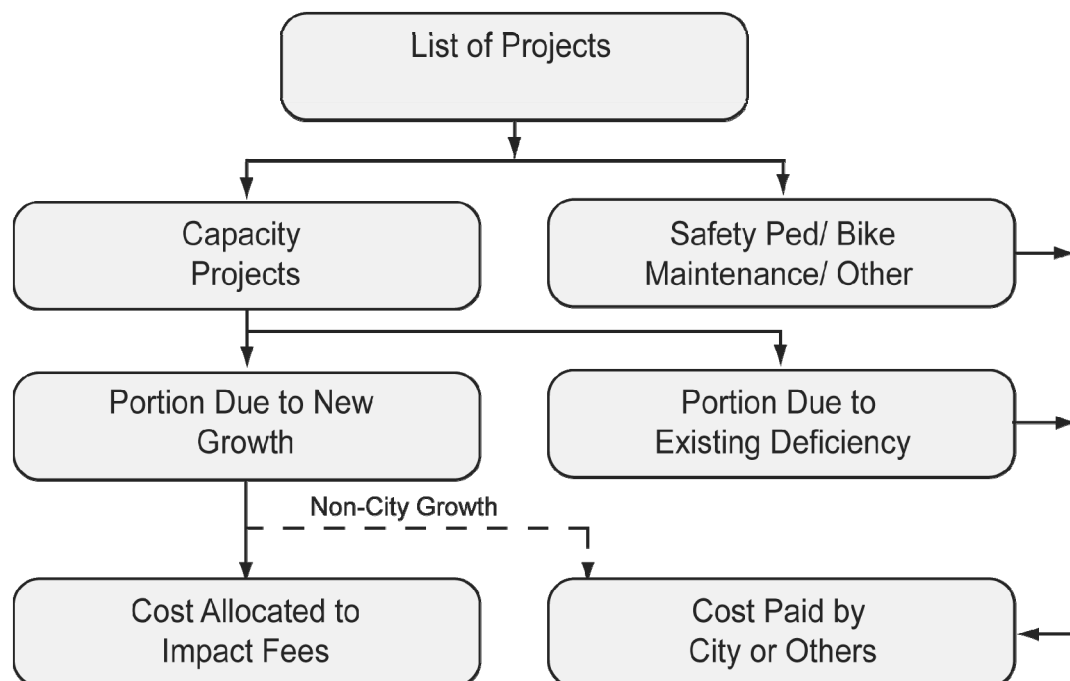


CHAPTER 3. COST ALLOCATION

METHODOLOGY

The method starts by identifying those projects that provide system capacity and therefore are eligible for impact fees. The next step involves calculating the portion of the project need caused by existing deficiencies. The existing deficiency portion is removed with the remaining portion attributable to new growth. The new growth portion is then allocated to impact fees. The impact fee cost allocation methodology is shown in **Figure 3**.

Figure 3. Impact Fee Cost Allocation Concept



The following sections describe each step in the process.

TRANSPORTATION DEFICIENCIES

RCW 82.02.050(4) (a) requires that the Capital Facilities Element of a jurisdiction's comprehensive plan identify "deficiencies in public facilities serving existing development". Under the GMA, future development cannot be held responsible for the portion of added roadway capacity needed to serve existing development.

To adequately assess both the extent of the existing roadway deficiencies and the magnitude of the future needs on arterial roadways, the City developed a standard evaluation criterion. The criterion is defined by the Highway Capacity Manual (HCM) average volume/capacity (v/c) ratio for intersections during the PM peak hour. The v/c ratio was calculated using

Synchro software. For roadway segments that contain multiple intersections, an average v/c was calculated.

Using this methodology, the Des Moines Memorial Drive and Marine View Drive intersection project was found to have an existing deficiency. The formula for determining the existing deficiency percentage follows:

$$\text{Existing Deficiency Percentage} = (\text{Existing v/c} - 1.0) \div (\text{Existing v/c} - \text{Improved v/c})$$

The existing deficiency percentage for project # 11 Des Moines Memorial Drive and Marine View Drive is calculated as follows.

Existing Deficiency Percentage:

$$(1.03 - 1.0) \div (1.03 - 0.92) = 0.03 \div 0.11 = 27.3 \text{ percent}$$

Table 2 summarizes the analysis findings.

Table 2. Transportation Deficiency Calculation

Map ID	Impact Fee Projects		Volume/Capacity Ratio (2008)*		Percent Deficient
	Location	Description	Existing Design	With Improvement	
11	Des Moines Memorial Drive and Marine View Drive	Lengthen approach lanes, coordinate signal with Marine View Drive and 7th Avenue South. Also consider roundabout option.	1.03	0.92	27.3%

*2000 Highway Capacity Manual (HCM).

TRAVEL GROWTH

To match the 2009-2030 Comprehensive Transportation Plan, the City used a 22-year land use growth estimate. **Table 3** shows Des Moines land use forecasts in terms of single family housing, multi-family housing, office, retail, industrial and lodging units for the years 2008 and 2030.

The housing and employment growth estimates were converted to PM peak hour vehicle trip ends¹ using trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation* (8th Edition, 2008). These growth estimates result in a forecasted increase of 9,751 PM peak hour vehicle trip ends within the City during the 22-year period. This growth in vehicle trip ends was used to calculate the impact fee rates.

1-A vehicle trip travels between an origin and a destination. Each vehicle trip has two trip ends, one each at the origin and destination. Trip ends represent the traffic coming to and from a given land use. The trip ends were calculated with trip generation formulas used by the *Institute of Transportation Engineers*.

Table 3. Des Moines Land Use Growth

Land Use Category	Unit of Measure	2008	2030	Growth
Single Family Housing	Dwelling Units	6,555	8,946	2,391
Multi-Family Housing	Dwelling Units	4,301	8,246	3,945
Office	Square Feet	1,319,100	2,466,600	1,147,500
Retail	Square Feet	157,600	1,190,000	1,032,400
Industrial	Square Feet	14,500	19,500	5,000

Source: City of Des Moines, 2008

COST ALLOCATION RESULTS

The cost allocation process distributes the growth costs for each project based upon the travel patterns between the different geographic areas within and outside the City limits. A 'select link' assignment procedure using the City's travel demand forecasting model provided the origin and destination information for each vehicle trip traveling through a particular improvement project group. The grouping of projects for the select link assignments is shown in the second column of Table 1. Trips that pass through Des Moines, but do not have any origins or destinations internal to Des Moines, were not allocated to Des Moines growth. Trips that have one end in Des Moines and the other end outside of Des Moines were allocated 50 percent to Des Moines growth.

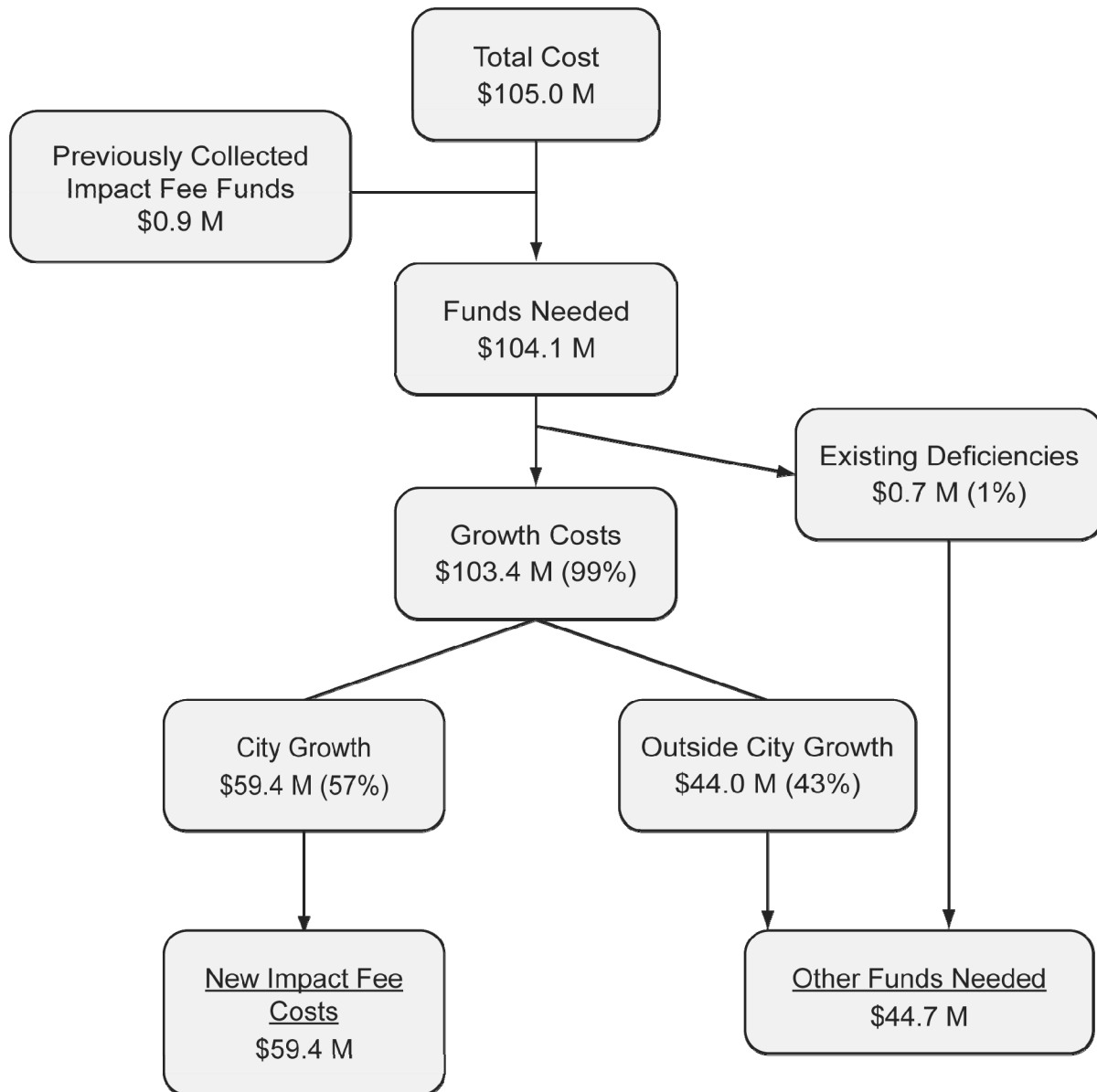
Figure 4 summarizes the cost allocation results. For discussion purposes, the dollar amounts shown in this figure and the following text descriptions are rounded values expressed in million dollars. The actual amounts used in the calculations are accurate to a single dollar.

The total cost of the impact fee projects is \$105.0 million as shown in Table 1. The City has \$0.9 million in available impact fee funds that have been previously collected for the current impact fee projects. The remaining \$104.1 million was divided into growth costs and existing deficiencies, with the growth costs representing \$103.4 million, or 99 percent of the total costs. This cost is referred to as the 'growth share of costs'.

The \$103.4 million was split into 'city growth' and 'outside city growth' components using the City's travel demand model data. **Appendix A** - Exhibit A-1 shows the details of this calculation. Using these data, the average percent of 'city growth' equaled 57 percent. This percentage is referred to as the 'City development share of cost'. The City development share, applied to the \$103.4 million of needed funds, yields an amount equal to \$59.4 million. This is the maximum allowable amount that can be charged to new development using impact fees.

The final step in the cost allocation process dealt with calculating the 'cost per new trip end' within Des Moines, derived by dividing the total eligible project cost by the total number of new PM peak hour trip ends based in Des Moines. A total of 9,751 new PM peak hour vehicle trip ends are estimated to occur within the City between 2008 and 2030.

Figure 4. Impact Fee Cost Allocation Results



New PM Peak Hour Trip Ends = 9,751
Cost/Trip End = \$6,088

Transportation Impact Fee Update 2009

The analysis produced the following results.

Impact fee costs	\$ 59,364,884
Divided by:	
PM peak hour trip ends	÷ 9,751
Equals:	
Impact fee per PM Peak Hour trip end	\$ 6,088

The \$6,088 value represents the maximum allowable impact fee rate to meet the GMA requirements.

PACIFIC RIDGE NEIGHBORHOOD

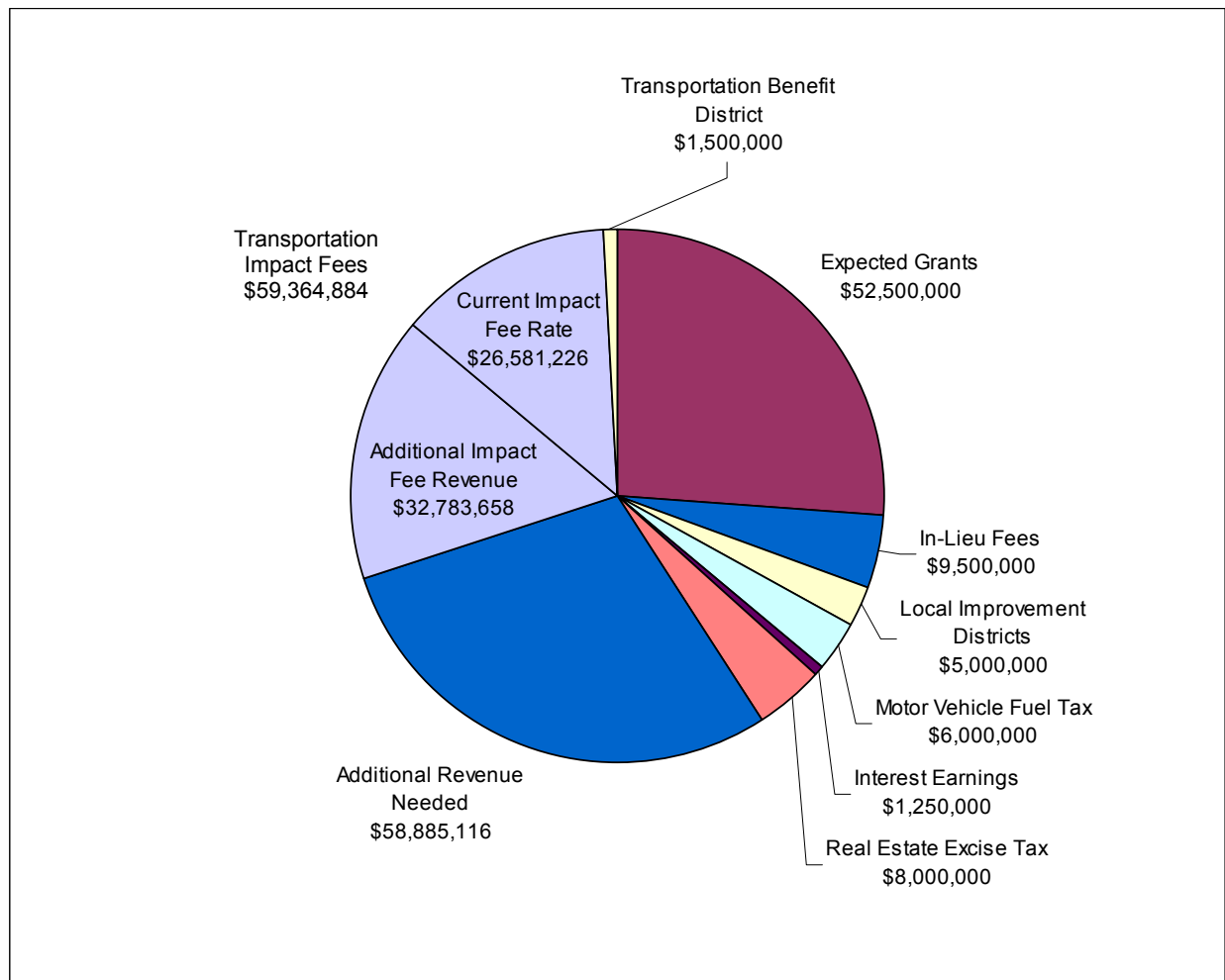
The Pacific Ridge Neighborhood is subject to a Planned Action SEPA that requires new development to fund transportation projects in the area. Under the Planned Action, new development in 2009 pays \$4,121 per new trip in the south zone and \$2,069 per new trips in the north zone. Pacific Ridge residential development will continue to only pay the SEPA fees and will not pay the new citywide impact fees. Commercial developments will pay the citywide impact fees and receive a credit for the Pacific Ridge transportation mitigation identified in SEPA.

SUMMARY OF TRANSPORTATION REVENUE NEEDS

To put the impact fee program revenues into perspective, the Comprehensive Transportation Plan (CTP) identifies \$202.0 million for all transportation improvements needed for 2009-2030². These needs include non capacity projects and non capital projects that are not included in the impact fee project list. **Figure 5** shows a potential funding scenario for the citywide transportation improvements using the midpoint value of projected revenue. New impact fees could contribute \$59.4 million (29 percent) of the total \$202.0 million cost of the improvement projects, while grant funds could cover \$52.5 million (26 percent) of the total cost. The CTP also identifies that additional revenue will be needed from other funding sources. If the maximum allowable impact fees were implemented, an additional \$58.9 million would be needed. The impact fees compromise \$44.7 million of these funding needs, with the remaining \$14.2 million needed for other city transportation projects.

² Source: Des Moines Comprehensive Transportation Plan, Table 8-3.

Figure 5. Projected Revenue for Transportation Improvements 2009-2030 (\$202 million)



CHAPTER 4. IMPACT FEE SCHEDULE

The impact fee schedule was developed by adjusting the 'cost per trip end' information to reflect differences in trip-making characteristics for a variety of land use types within the study area. The rates in the fee schedule represent dollars per unit for each land use category. **Table 4** shows the various components of the fee schedule (trip generation rates, new trip percentages, trip lengths, and trip length adjustment for each land use).

TRIP GENERATION COMPONENTS

Trip generation rates for each land use type are derived from the Institute of Transportation Engineers (ITE) *Trip Generation* (8th Edition). The rates are expressed as vehicle trips entering and leaving a property during the PM peak hour.

Pass-by Trip Adjustment

Trip generation rates represent the total traffic entering and leaving a property at the driveway points. For certain land uses (e.g., retail), a substantial amount of this traffic is already passing by the property and merely turns into and out of the driveway. These pass-by trips do not significantly impact the surrounding street system and therefore are subtracted out prior to calculating the impact fee. The resulting trips are considered 'new' to the street system and are therefore subject to the impact fee calculation. The 'new' trip percentages are derived partially from ITE data and from available surveys conducted around the country.³

Trip Length Adjustment

Another variable that affects traffic impacts is the length of the trip generated by a particular land use. The 'cost per trip' calculated in the impact fee program represents an average for all new trips generated within Des Moines. Being an average, there will be certain land uses that generate trips of different lengths. If a given trip length is shorter than the average, then its relative traffic impacts on the street system will be lower than average. Conversely, longer trips will impact a larger proportion of the transportation network. To account for these differences, an adjustment factor is used, calculated as the ratio between the trip length for a particular land use type and the 'average' trip length for the city. Trip length data were estimated using limited national survey results.³ These national data showed average trip lengths of around 3.1 miles. The average trip length estimated for Des Moines was 1.5 miles, based upon the 2030 mix of land use types within the study area and the geographic size of the city. To better reflect Des Moines' conditions, the trip lengths were adjusted lower to match the 1.5-mile average for Des Moines.

3-Trip Generation Sources: ITE *Trip Generation* (8th Edition); ITE *Trip Generation Handbook*, (March 2001); Pinellas County (FL) *Impact Fee Study* (1991), Osceola County (FL) *Alternative Traffic Generation Rate Study* (2004), Polk County (FL) *Transportation Impact Fee Study* (2005).

Table 4. Impact Fee Schedule Components

Land Use	ITE Land Use Code	Unit of Measure	Basic Trip Rate	New Trip %	New Trip Rate	Avg. Trip Length (miles)	Trip Length Adjust-ment
Residential							
Single Family	210	dwelling	1.01	100%	1.01	1.7	1.13
Multi-Family	220,221, 230	dwelling	0.62	100%	0.62	1.8	1.20
Senior Citizen Dwelling	251, 252	Dwelling	0.31	100%	0.31	1.4	0.93
Commercial - Services							
Drive-in Bank	912	sf/GFA	25.82	55%	14.20	0.7	0.47
Hotel	310	room	0.59	100%	0.59	1.9	1.27
Motel	320	room	0.47	100%	0.47	1.9	1.27
Day Care Center	565	sf/GFA	12.46	75%	9.35	1.0	0.67
Library	590	sf/GFA	7.30	75%	5.48	0.8	0.53
Post Office	732	sf/GFA	11.12	75%	8.34	0.8	0.53
Service Station	944	VFP	13.87	60%	8.32	0.8	0.53
Service Station with Minimart	945	sf/GFA	97.08	45%	43.69	0.8	0.53
Auto Care Center	942	sf/GLA	3.38	70%	2.37	1.0	0.67
Movie Theater	444, 445	seat	0.07	85%	0.06	1.1	0.73
Health Club	492, 493	sf/GFA	3.53	75%	2.65	1.5	1.00
Commercial - Institutional							
Elementary School	520	sf/GFA	1.21	80%	0.97	0.9	0.60
Middle/Jr High School	522	sf/GFA	1.19	80%	0.95	1.2	0.80
High School	530	sf/GFA	0.97	80%	0.78	1.5	1.00
Assisted Living, Nursing Home	254, 620	bed	0.22	100%	0.22	1.3	0.87
Congregate Care	253	dwelling	0.17	100%	0.17	1.3	0.87
Church	560	sf/GFA	0.55	100%	0.55	1.8	1.20
Hospital	610	sf/GFA	1.14	80%	0.91	2.0	1.33
Commercial - Restaurant							
Restaurant	931	sf/GFA	7.49	55%	4.12	1.6	1.07
High Turnover Restaurant	932	sf/GFA	11.15	55%	6.13	1.1	0.73
Fast Food Restaurant	934	sf/GFA	33.84	50%	16.92	1.0	0.67
Espresso with Drive-Through	938	sf/GFA	75.00	20%	15.00	1.0	0.67
Commercial - Retail Shopping							
Shopping Center							
up to 99,999	820	sf/GLA	8.00	55%	4.40	0.7	0.47
100,000-199,999	820	sf/GLA	5.56	60%	3.34	0.8	0.53
200,000-299,999	820	sf/GLA	4.70	65%	3.06	0.8	0.53
300,000-399,999	820	sf/GLA	4.21	70%	2.95	1.0	0.67
over 400,000	820	sf/GLA	3.87	75%	2.90	1.1	0.73
Supermarket	850	sf/GFA	10.50	65%	6.83	1.0	0.67
Convenience Market	851	sf/GFA	52.41	40%	20.96	0.6	0.40
Miscellaneous Retail	814, 820	sf/GFA	3.73	55%	2.05	0.9	0.60

See next page for notes

Table 4. Impact Fee Schedule Components (Continued)

Land Use	ITE Land Use Code	Unit of Measure	Basic Trip Rate	New Trip %	New Trip Rate	Avg. Trip Length (miles)	Trip Length Adjust-ment
Commercial - Retail Shopping (Continued)							
Free Standing Discount Store	813, 815, 857, 863, 864	sf/GFA	4.67	70%	3.27	1.1	0.73
Hardware/Paint Store	816	sf/GFA	4.84	45%	2.18	1.0	0.67
Furniture Store	890	sf/GFA	0.45	45%	0.20	0.9	0.60
Home Improvement Superstore	862	sf/GFA	2.37	50%	1.19	1.1	0.73
Pharmacy (with Drive-Through)	881	sf/GFA	10.35	50%	5.18	0.8	0.53
Car Sales -New/ Used	841	sf/GFA	2.59	80%	2.07	2.1	1.40
Commercial - Office							
General Office							
up to 99,999	710, 715	sf/GFA	2.70	90%	2.43	2.2	1.47
100,000-199,999	710, 715	sf/GFA	1.65	90%	1.49	2.2	1.47
200,000-299,999	710, 715	sf/GFA	1.44	90%	1.30	2.2	1.47
over 300,000	710, 715	sf/GFA	1.35	90%	1.22	2.2	1.47
Office Park	750	sf/GFA	1.48	90%	1.33	2.2	1.47
Medical Office	720	sf/GFA	3.46	75%	2.60	2.1	1.40
Industrial							
Light Industry/Manufacturing	110, 140	sf/GFA	0.97	100%	0.97	2.2	1.47
Heavy Industry	120	sf/GFA	0.68	100%	0.68	2.2	1.47
Industrial Park	130	sf/GFA	0.86	100%	0.86	2.2	1.47
Mini-Warehouse/Storage	151	sf/GFA	0.26	100%	0.26	2.2	1.47
Warehousing	150	sf/GFA	0.32	100%	0.32	2.2	1.47

Notes:

sf/GFA = square feet Gross Floor Area

sf/GLA = square feet Gross Leasable Area

For uses with Unit of Measure given in sf, trip rate is given as trips per 1,000 sf

VFP = Vehicle Fueling Station (Maximum number of vehicles that can be fueled simultaneously)

SCHEDULE OF RATES

The impact fee schedule using maximum allowable rates is shown in **Table 5**. In the fee schedule, fees are shown as dollars per unit of development for various land use categories, as defined in **Appendix B**. The impact fee program is flexible in that if a use does not fit into one of the categories, the City may calculate an impact fee based on the development's projected trip generation.

Table 5. Impact Fee Schedule (Maximum Allowable Rates)

Land Use	ITE Land Use Code	Unit of Measure	Impact Fee Rate
Residential			
Single Family	210	dwelling	\$6,969
Multi-Family	220, 221, 230	dwelling	\$4,529
Senior Citizen Dwelling	251, 252	Dwelling	\$1,761
Commercial - Services			
Drive-in Bank	912	sf/GFA	\$40.35
Hotel	310	room	\$4,550
Motel	320	room	\$3,624
Day Care Center	565	sf/GFA	\$37.93
Library	590	sf/GFA	\$17.78
Post Office	732	sf/GFA	\$27.08
Service Station	944	VFP	\$27,021
Service Station with Minimart	945	sf/GFA	\$142
Auto Care Center	942	sf/GLA	\$9.60
Movie Theater	444, 445	seat	\$266
Health Club	492, 493	sf/GFA	\$16.12
Commercial - Institutional			
Elementary School	520	sf/GFA	\$3.54
Middle/Jr High School	522	sf/GFA	\$4.64
High School	530	sf/GFA	\$4.73
Assisted Living, Nursing Home	254, 620	bed	\$1,161
Congregate Care	253	dwelling	\$897
Church	560	sf/GFA	\$4.02
Hospital	610	sf/GFA	\$7.40
Commercial - Restaurant			
Restaurant	931	sf/GFA	\$26.75
High Turnover Restaurant	932	sf/GFA	\$27.38
Fast Food Restaurant	934	sf/GFA	\$68.67
Espresso with Drive-Through	938	sf/GFA	\$60.88
Commercial - Retail Shopping			
Shopping Center			
up to 99,999	820	sf/GLA	\$12.50
100,000-199,999	820	sf/GLA	\$10.83
200,000-299,999	820	sf/GLA	\$9.92
300,000-399,999	820	sf/GLA	\$11.96
over 400,000	820	sf/GLA	\$12.96
Supermarket	850	sf/GFA	\$27.70
Convenience Market	851	sf/GFA	\$51.05
Miscellaneous Retail	814, 820	sf/GFA	\$7.49

See the next page for notes

Table 5. Impact Fee Schedule (Maximum Allowable Rates) Continued

Land Use	ITE Land Use Code	Unit of Measure	Impact Fee Rate
Commercial - Retail Shopping (Continued)			
Free Standing Discount Store	813, 815, 857, 863, 864	sf/GFA	\$14.60
Hardware/Paint Store	816	sf/GFA	\$8.84
Furniture Store	890	sf/GFA	\$0.74
Home Improvement Superstore	862	sf/GFA	\$5.29
Pharmacy (with Drive-Through)	881	sf/GFA	\$16.80
Car Sales -New/ Used	841	sf/GFA	\$17.66
Commercial - Office			
General Office			
up to 99,999	710, 715	sf/GFA	\$21.70
100,000-199,999	710, 715	sf/GFA	\$13.26
200,000-299,999	710, 715	sf/GFA	\$11.57
over 300,000	710, 715	sf/GFA	\$10.85
Office Park	750	sf/GFA	\$11.89
Medical/ Dental Office	720	sf/GFA	\$22.12
Industrial			
Light Industry/Manufacturing	110, 140	sf/GFA	\$8.66
Heavy Industry	120	sf/GFA	\$6.07
Industrial Park	130	sf/GFA	\$7.68
Mini-Warehouse/Storage	151	sf/GFA	\$2.32
Warehousing	150	sf/GFA	\$2.86

Notes:

sf/GFA = square feet Gross Floor Area

sf/GLA = square feet Gross Leasable Area

For uses with Unit of Measure given in sf, trip rate is given as trips per 1,000 sf

VFP = Vehicle Fueling Station (Maximum number of vehicles that can be fueled simultaneously)

Table 6 provides two examples (residential and office) of the calculation.

Table 6. Example Calculations of Impact Fee Rate (Maximum Allowable Rate)

	Calculations	Residential: Single Family	Commercial Office 50,000 sq ft
	PM Peak Hour Trip Generation (per unit) ¹	1.01/ dwelling	2.70/ 1,000 sq ft
x	Percent New Trips	100%	90%
x	New Trip Rate	= 1.01/ dwelling	= 2.43/ 1,000 sq ft
	Trip Length (miles)	1.7	2.2
÷	÷	÷	÷
	Average Trip Length (miles)	1.5	1.5
x	Trip Length Adjustment	= 1.13	= 1.47
x	Average Cost per Trip End	\$6,088	\$6,088
÷	Divide by 1,000 for rate per square foot	NA	1,000
=	Impact Fee Rate (per unit)	\$6,969/ dwelling	\$21.70/ sq ft

1- ITE Trip Generation, 8th Edition, 2008

CHAPTER 5. CONCLUSION

The City of Des Moines Transportation Impact Fee Program was adopted in 2003. The proposed impact fees for 2009 have increased to be consistent with current construction and regulatory costs and to account for the addition of new projects to the impact fee list. The \$6,088 cost per trip rate is 133 percent higher than the current rate of \$2,972. The \$6,088 value represents the maximum allowable impact fee rate to meet GMA requirements. The impact fee rate schedule (Table 5) lists the impact fees that would be charged to a variety of land use types based on the maximum allowable cost per trip. Using these rates, the proposed impact fee rates could generate \$59.4 million over the next 22 years, representing approximately 57 percent of total funding needs for the projects on the impact fee list. Funding from other sources would be needed to pay for the remaining portion of the capacity and non capacity projects identified in the Comprehensive Transportation Plan.

APPENDIX A – COST ALLOCATION RESULTS

The cost allocation results are summarized in this Appendix. **Exhibit A-1** illustrates how the impact fee project costs (shown in Table 1) were divided into growth-related costs attributable to the City. In order to determine this proportion, the City's travel demand model was used to identify the portion of trip-making associated with existing and growth-related traffic. A technique called 'select-link' analysis was used to isolate the vehicle trips using each of the impact fee projects. The first column of Exhibit A-1 shows several 'project groups', which represent the grouping of impact fee projects used in the select link traffic forecasts. Each project group includes impact fee projects that are located within close proximity to each other, representing similar traffic patterns. The grouping of projects is shown at the bottom of Exhibit A-1.

Exhibit A-1. Cost Allocation by Project Group

Project Group #	Project Costs (Total)	Existing Deficiency Portion	Previously Collected Impact Fees	Project Costs minus Existing Deficiencies and Previously Collected Impact Fees	Percent of New Project Traffic due to Growth within City	Project Costs Allowable for Impact Fees
A	\$29,300,000	\$0	\$128,839	\$29,171,161	62.6%	\$18,255,534
B	\$28,800,000	\$0	\$0	\$28,800,000	55.4%	\$15,961,216
C	\$42,981,692	\$0	\$820,000	\$42,161,692	55.6%	\$23,431,131
D	\$3,900,000	\$681,818	\$0	\$3,218,182	53.4%	\$1,717,003
Total	\$104,981,692	\$681,818	\$948,839	\$103,351,035	57.4%	\$59,364,884

Project Group Definitions (used for grouping capacity projects for travel modeling)

A	South Des Moines
B	Kent-Des Moines Road
C	Central and Northeast Des Moines
D	Northwest Des Moines

APPENDIX B – LAND USE DEFINITIONS

The following land use definitions are derived from the ITE *Trip Generation* (8th Edition). They have been modified as appropriate for the City of Des Moines. Where multiple land use codes are listed, the code marked with an asterisk (*) was selected for use in the Impact Fee Schedule. Rates for other land uses were selected as indicated in the definitions.

RESIDENTIAL

Single Family: One or more detached housing units located on an individual lot. Also includes accessory dwelling units and duplexes. (ITE # 210)

Multi Family: A building or buildings designed to house three or more families living independently of each other. Includes apartments, condos, attached duplexes and attached townhouses. Includes accessory dwelling units (separate structure) and single room occupancy, if additional parking provided. (ITE #s 220*, 221, and 230)

Senior Housing: Residential units restricted to senior citizens. (ITE # 251 and 252. Uses 50 percent of trip generation values used for ITE #s 220*, 221, and 230)

COMMERCIAL-SERVICES

Drive-in Bank: A free-standing building, with or without a drive-up window, for the custody or exchange of money, and for facilitating the transmission of funds. (ITE # 912)

Hotel: A place of lodging providing sleeping accommodations. May include restaurants, cocktail lounges, meeting and banquet rooms or convention facilities. (ITE # 310)

Motel: A place of lodging providing sleeping accommodations. Motels generally offer free on-site parking, little or no meeting space, and may have exterior corridors. (ITE # 320)

Day Care Center: A facility for the care of infant and preschool age children during the daytime hours. Generally includes classrooms, offices, eating areas, and a playground. (ITE # 565)

Library: A public facility for the use, but not sale, of literary, musical, artistic, or reference materials. (ITE # 590)

Post Office: Houses service windows for mailing packages and letters, post office boxes, offices, vehicle storage areas, and sorting and distribution facilities for mail. (ITE # 732)

Service Station: A facility used for the sale of gasoline, oil, and lubricants. May include areas for servicing, repairing, and washing vehicles. (ITE # 944)

Service Station with Minimart: A facility which combines elements of a convenience store and a gas station. Convenience food items are sold along with gasoline and other car products; gas pumps are primarily or completely self-service. (ITE # 945)

Automobile Care Center: An automobile care center houses numerous businesses that provide automobile-related services, such as repair and servicing, stereo installation and seat cover upholstery. (ITE # 942)

Movie Theater: Consists of audience seating, one or more screens and auditoriums, and a lobby and refreshment stand. Typically includes matinee showings. (ITE #s 444*, 445)

Health Club: Privately owned facilities that primarily focus on individual fitness or training. They generally offer exercise or dance classes, weightlifting, fitness and gymnastics equipments, spas, massage services, locker rooms and small restaurants or juice/snack bars. These may also include ancillary facilities, such as swimming pools, whirlpools, saunas and tennis. (ITE #s 492*, 493)

COMMERCIAL-INSTITUTIONAL

Elementary School: These are facilities of education serving students attending kindergarten through fifth or sixth grade. (ITE # 520)

Junior High School: These are facilities of education serving students who have completed elementary school and have not yet entered high school. (ITE #s 522)

High School: High Schools serve students who have completed middle or junior high school. (ITE # 530)

Assisted Living, Nursing Home: One or more multi-unit buildings designed for the elderly or those who are unable to live independently due to physical or mental handicap. Facilities may contain dining rooms, medical facilities, and recreational facilities. The primary function of a nursing home is to provide chronic or convalescent care for persons who by reason of illness or infirmity are unable to care for themselves. Applies to rest homes, chronic care, and convalescent centers. (ITE #s 254* and 620)

Congregate Care: Independent living developments that provide centralized amenities such as dining, housekeeping, transportation, and recreational facilities. Limited medical services may or may not be provided. (ITE # 253)

Church: A building providing public worship facilities. Generally houses as assembly hall or sanctuary, meeting rooms, classrooms, and occasionally dining facilities. (ITE # 560)

Hospital: A building or buildings designed for the medical, surgical diagnosis, treatment and housing of persons under the care of doctors and nurses. Rest homes, nursing homes, convalescent homes and clinics are not included. (ITE #610)

COMMERCIAL-RESTAURANT

Restaurant: An eating establishment, which sells prepared food or beverages and generally offers accommodations for consuming the food or beverage on the premises. Usually serves breakfast, lunch, and/or dinner; generally does not have a drive-up window. Includes bars/taverns. (ITE # 931)

High Turnover Restaurant: A sit-down, full-service eating establishment with a turnover rate of approximately one hour or less. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain. Generally, these restaurants serve lunch and dinner; they may also be open for breakfast and are sometimes open 24 hours per day. (ITE # 932)

Fast Food Restaurant: An eating establishment that offers quick food service and a limited menu of items. Food is generally served in disposable wrappings or containers, and may be consumed inside or outside the restaurant building. Restaurants in this category have a drive-up window. (ITE # 934)

Espresso Drive-Through: A drive-up kiosk serving coffee and related beverages. No inside seating is provided and facilities are typically 200 square feet or smaller (ITE # 938; trip rates using local surveys*)

COMMERCIAL-RETAIL SHOPPING

Shopping Center: An integrated group of commercial establishments that is planned, developed, owned, or managed as a unit. On-site parking facilities are provided, and administrative office areas are usually included. In addition to the integrated unit of shops in one building or enclosed around a mall, include peripheral buildings located on the perimeter of the center adjacent to the streets and major access points. Supermarkets should typically be separated for calculation purposes from the rest of the shopping center. (ITE # 820)

Supermarket: Retail store (greater than 5,000 gsf) that sells a complete assortment of food, food preparation and wrapping materials, and household cleaning and servicing items. (ITE # 850)

Convenience Market: A use (less than 5,000 gsf) that combines retail food sales with fast foods or take-out food service; generally open long hours or 24 hours a day. (ITE # 851)

Free-Standing Discount Store: A free-standing store or warehouse with off-street parking. Usually offers centralized cashiering and a wide range of merchandise and/or food products. May include items sold in large quantities or bulk. Often is the only store on a site, but can be found in mutual operation with its own or other supermarkets, garden centers and service stations, or as part of community-sized shopping centers. Fred Meyer stores, Costco, and big box consumer electronic/computer/toy stores are examples of this land use. (ITE #s 813, 815, 857, 863, and 864 - average of rates used)

Hardware/Paint Store: A small free-standing or attached store with off-street parking. Stores sell hardware, paint, and related materials. Storage areas are not included in the total gross floor area. (ITE # 816)

Specialty Retail Center: These retail centers are generally small strip shopping centers that contain a variety of retail shops and specialize in quality apparel; hard goods; and services, such as retail estate offices, dance studios, florists and small restaurants. (ITE # 814)

Furniture Store: Furniture stores specialize in the sale of furniture, and often, carpeting. The stores are generally large and include storage areas. (ITE # 890)

Home Improvement Superstore: A free-standing warehouse type facility (25,000 to 150,000 gsf) with off-street parking. Generally offers a variety of customer services (home improvements; lumber, tools, paint, lighting, wallpaper, kitchen and bathroom fixtures, lawn equipment, and garden equipment) and centralized cashiering. (ITE # 862)

Pharmacy (with drive-through window): A pharmacy which sells prescriptions and non-prescription drugs, cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. The drug stores may contain drive-through windows. (ITE # 881)

Car Sales (New and Used): Facilities are generally located as strip development along arterial streets that already have a preponderance of commercial development. Generally included are auto services and parts sales along with a sometimes substantial used-car operation. Some dealerships include leasing activities and truck sales. (ITE # 841)

COMMERCIAL-OFFICE

General Office: An office building houses one or more tenants and is the location where affairs of a business, commercial or industrial organization, professional person or firm are conducted. The building or buildings may be limited to one tenant, either the owner or lessee, or contain a mixture of tenants including professional services, insurance companies, investment brokers, and company headquarters. Services such as a bank or savings and loan, a restaurant or cafeteria, miscellaneous retail facilities, and fitness facilities for building tenants may also be included. (ITE #s 710* and 715)

Office Park: A planned unit development containing general office buildings and support services, such as banks, restaurants, and service stations, arranged in a park- or campus-like atmosphere. (ITE # 750)

Medical Office: A facility which provides diagnoses and outpatient care on a routine basis but which is unable to provide prolonged in-house medical/surgical care. A medical office is generally operated by either a single private physician. (ITE # 720)

INDUSTRIAL

Light Industry/Manufacturing: A facility where the primary activity is the conversion of raw materials or parts into finished products. Generally also have offices and associated functions. Typical uses are printing plants, material testing laboratories, bio-technology, medical instrumentation or supplies, communications and information technology, and computer hardware and software. (ITE #s 110* and 140)

Heavy Industry: These facilities usually have a high number of employees per industrial plant and could also be categorized as manufacturing facilities. Heavy industrial uses are limited to the manufacturing of large items. (ITE # 120)

Industrial Park: Areas containing a number of industrial or related facilities. They are characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Industrial parks include research centers facilities or groups of facilities that are devoted nearly exclusively to research and development activities. (ITE # 130)

Mini-Warehouse: Buildings in which a number of storage units or vaults are rented for the storage of goods. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point. (ITE # 151)

Warehousing: Facilities that are primarily devoted to the storage of materials, including vehicles. They may also include office and maintenance areas. (ITE # 150)